

TITLE

CORD REEL WITH ELECTRICAL OUTLETS

FIELD OF THE INVENTION

5 The present invention relates to a storage reel and more particularly to a manually operated storage reel with for storing, transporting, and dispensing electrical cord.

BACKGROUND OF THE INVENTION

10 Cord storage reels for storing and transporting electrical extension cords are known. Such reels consist basically of a spool, upon which a cord can be wound. In some cases, the spool is enclosed in a housing. Typically, a crank is connected to the spool so that the spool can be manually rotated to wind the cord thereabout. Such reels are particularly useful in industrial or commercial settings such as automobile repair shops, machine shops, carpentry shops and construction sites. The reels permit workers to readily access electrical power
15 as needed for the operation of portable electric tools, test devices, and trouble lights at various locations remote from an existing power outlet. Such reels are also convenient to use around the house and yard, particularly for use with electrically powered outdoor appliances like hedge trimmers, electric lawn mowers, edgers, and blowers that could potentially be used hundreds of feet from an electrical outlet.

20 It would be desirable to produce a manually operated cord storage reel having electrical outlets wherein a frame facilitates supporting the storage reel in a vertical or horizontal position.

SUMMARY OF THE INVENTION

25 Consistent and consonant with the present invention, a manually operated cord storage reel with electrical outlets wherein a frame facilitates supporting the storage reel in a vertical or horizontal position, has surprisingly been discovered.

The cord storage reel comprises a unitary frame including a generally U-shaped base portion, a handle portion, and a spool mounting axle, the base portion supporting the handle portion in spaced relation from the base portion and separately supporting the spool mounting axle in spaced relation to the base portion and the handle portion; and a spool having a rotational axis, the spool adapted to be rotatably mounted on the spool mounting axle of the frame, wherein the spool mounting axle is sufficiently spaced from the handle portion and the base portion to rotatably receive the spool therebetween, and wherein the frame is adapted to selectively support the reel where the axis of rotation of the reel is in a first position and where the axis of rotation is in a second position.

BRIEF DESCRIPTION OF THE DRAWING

The above, as well as other objects, features, and advantages of the present invention will be understood from the detailed description of the preferred embodiments of the present invention with reference to the accompanying drawings, in which:

Fig. 1 is an exploded front perspective view of a cord storage reel incorporating the features of the invention;

Fig. 2 is a front perspective view showing the cord storage reel illustrated in Fig. 1 in the assembled condition; and

Fig. 3 is a rear perspective view showing the cord storage reel illustrated in Fig. 1 in the assembled condition.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

Referring now to the drawings, and particularly Fig. 1, there is shown generally at 10 a cord storage reel incorporating the features of the invention. The cord storage reel 10 includes a frame 12 and a spool 14. The frame 12 is typically a tubular structure and consists of a generally U-shaped base portion 16, a handle portion 18, and a spool mounting axle 20. The spool mounting axle 20 has a flange 21 spaced from an end thereof to militate against axial movement of the associated spool 14. The handle portion 18 is adapted to

receive a top handle section **22** and a cooperating bottom handle section **24**. The top handle section **22** and the bottom handle section **24** cooperate to fit around and are securely affixed on the handle portion **18** of the frame **12**. A foot pad **23** is formed at one end of the top handle section **22**. A plurality of foot pads **25** are disposed on the base portion **16**, a leg or
 5 a cross member **27** between the base portion **16** and the handle portion **18**, and a leg or a cross member **29** between the base portion **16** and the spool mounting axle **20**.

The spool **14** has an axis of rotation **R** and includes a central hub **26**, a front flange **28**, and a rear flange **30**. The hub **26** has a centrally disposed sleeve **32** adapted to rotatingly receive the spool mounting axle **20** of the frame **12**. An annular array of ribs **34**
 10 is formed on an outer surface of the hub **26**, at least some of which ribs include a threaded portion to facilitate connection of the front flange **28** and the rear flange **30** to the hub **26** to form the spool **14**. An aperture **36** is formed in the hub **26** adjacent the rear flange **30** and is adapted to receive a male electrical plug (not shown) which can be connected to a female electrical plug end of an extension cord (not shown).

15 The rear flange **30** of the spool **14** includes a central aperture **38** adapted to be received on the spool mounting axle **20** of the frame **12** and abut the flange **21**. The aperture **38** of the rear flange **30** is aligned with the sleeve **32** of the hub **26**. A projecting edge **40** surrounds the aperture **38** of the rear flange **30** and extends in a direction towards the hub **26** to be received by the sleeve **32**. A lip **42** surrounding a raised surface **44** is
 20 concentric with and spaced radially outwardly from the aperture **38** of the rear flange **30**.

The lip **42** is adapted to be received by the hub **26**. A cap **46** having a central aperture **48** is adapted to be slidably received on the frame **12** and abut the flange **21** on a side opposite the rear flange **30** of the spool **14**.

The front flange **28** of the spool **14** includes a plurality of central apertures **50**
 25 adapted to receive electrical outlets **52** therein. A switch and circuit breaker **54** is disposed in an aperture **56** formed adjacent the apertures **50** for the outlets **52**. The outlets **52** are typically held in place using threaded fasteners **58**. A lip **59** surrounding a raised surface **61** is formed in the front flange **28**. The lip **59** is adapted to be received by the hub **26**.

A crank handle or winding knob **60** is rotatably disposed on the front flange **28** adjacent a peripheral edge thereof. In the embodiment shown, the knob **60** is installed over an axle **62** and connected to the front flange **28** by a nut **64** and a bolt **66**. It is understood that other suitable fasteners could be used. Threaded fasteners **68** are used in the
5 embodiment shown to connect the front flange **28** to the hub **26**, the rear flange **30** to the hub **26**, the cap **46** to the rear flange **30**, and the top handle section **22** to the bottom handle section **24**. It is understood that other fasteners could be used without departing from the scope and spirit of the invention.

To assemble the cord storage reel **10**, the aperture **48** of the cap **46** is received on
10 the handle portion **18** of the frame **12**. The cap **46** is moved along the frame **12** until connected to the cap **46** using the appropriate fasteners **68**. Sufficient clearance is provided between the cap **46** and the rear flange **30** to permit the cap **46** and the rear flange **30** assembly to rotate on the spool mounting axle **20** of the frame **12**.

The hub **26** is connected to the rear flange **30** using the appropriate fasteners **68**.
15 The lip **42** militates against lateral movement of the hub **26** when assembled with the rear flange **30**. The male electrical plug disposed in the aperture **36** formed in the hub **26** is electrically connected to the outlets **52**. An electrical connection is then made between the outlets **52** and the switch and circuit breaker **54**. The outlets **52** are installed in the apertures **50** and the switch is installed in the aperture **56**.

20 The front flange **28** is connected to the hub **26** using the appropriate fasteners **68**. The lip **59** militates against relative movement between the hub **26** and the front flange **28** when assembled. The knob **60** is then fastened to the front flange **28** using the axle **62**, the nut **64**, and the bolt **66**.

The top handle section **22** and the bottom handle section **24** are aligned with and
25 connected to surround the handle portion **18** of the frame **12**. Appropriate fasteners **68** are used to join the top handle section **22** and the bottom handle section **24** with the handle portion **18**. The foot pads **25** are snapped on the frame **12** to be securely held thereon.

The use of the cord storage reel **10** will now be described. Typically, the female electrical plug end of the extension cord is connected with the male electrical plug installed in the aperture **36** of the hub **26**. When being stored, the extension cord is coiled onto the hub **26** of the spool **14**. This is accomplished by a user gripping the knob **60** and rotating the spool **14** in the desired direction to coil the extension cord.

When it is desired to use an electrical tool or an appliance, a male electrical plug end of the extension cord is plugged into a wall outlet (not shown). The user then uses the handle portion **18** to carry the cord storage reel **10** to a desired location. While transporting the cord storage reel **10**, the extension cord is caused to be spooled out or uncoiled from the spool **14**. At the desired location, the user is able to plug in the tool or appliance. Electrical power can then be supplied to the tool or appliance by moving the switch and circuit breaker **54** to the on position. In the event there is a short, the switch and circuit breaker **54** will be caused to interrupt the power supply, until the short can be corrected.

During use, the user can position the cord storage reel **10** with the axis of rotation **R** in a substantially horizontal position as shown in Fig. 2. Additionally, where space limitations or use requirements dictate, the cord storage reel **10** can be placed on its back or with the axis of rotation **R** in a substantially vertical position. With the axis of rotation **R** in the horizontal position, the cord storage reel **10** is supported on any horizontal planar surface by the foot pads **25** located on the base portion **16** of the frame **12**. With the axis of rotation **R** in the vertical position, the cord storage reel **10** is supported on the horizontal support surface by the foot pads **25** located on the cross member **27** between the base portion **16** and the handle portion **18**, the cross member **29** between the base portion **16** and the spool mounting axle **20**, and the foot pad **23** disposed on the top handle section **22**. Fig. 3 most clearly shows the back portion of the cord storage reel **10** which supports the cord storage reel **10** with the axis of rotation **R** in the vertical position.

Permitting the user to use the cord storage reel **10** with the axis of rotation **R** in the horizontal position and the vertical position provides the user with the flexibility of using the cord storage reel **10** in a variety of situations. Additionally, in the embodiment shown,

the front flange **28** and the rear flange **30** are produced from metal, whereas the remaining parts of the cord storage reel **10** are produced from plastic. The metal flanges **28**, **30** provide structural strength and rigidity, while the plastic portions minimize the overall weight of the cord storage reel **10**. It is understood that other materials having similar
5 properties to those mentioned above can be used without departing from the scope and spirit of the invention.

From the foregoing description, one ordinarily skilled in the art can easily ascertain the essential characteristics of this invention and, without departing from the spirit and scope thereof, can make various changes and modifications to the invention to adapt it to
10 various usages and conditions.